CLAIMS

1) An automatic pipe gridding method allowing implementation of codes for modelling fluids carried by these pipes, characterized in that, after defining a minimum cell size and a maximum cell size, the pipe is subdivided into sections delimited by bends, a cell of minimum size is positioned on either side of each bend, large cells whose size is at most equal to the maximum size are positioned in the central part of each section, and cells of increasing or decreasing sizes are distributed on the intermediate portions of each section between each cell of minimum size and the central portion.

2) A method as claimed in claim 1, characterized in that cells of increasing or decreasing sizes are distributed on the portions of each intermediate section between each cell of minimum size and the central portion by determining the points of intersection, with each pipe section, of a pencil of lines concurrent at one point and forming a constant angle with one another.

3) A method as claimed in claim 1, comprising determining the position of the vertex of the pencil of lines on an axis passing through a bend of the pipe and perpendicular to each section, at a distance (y) therefrom which is a function of the size (L1, L3) of the extreme cells of each intermediate portion and of the distance (L2) between them.

4) A gridding method as claimed in any one of claims 1 to 3, comprising previous simplification of the topography of the pipe.

5) A gridding method as claimed in claim 4, comprising representing the pipe in form of a graph connecting the curvilinear abscissa and the level variation, and simplifying the number of sections by assigning to each point between two successive sections a weight taking into account the length (L1, L2) of the sections and the respective slopes (P1, P2) thereof and by selecting, from among the points arranged in increasing or decreasing order of weight, those whose weight is the greatest.

6) A gridding method as claimed in claim 5, comprising selecting the points of the pipe whose weight is the greatest by locating in the arrangement of points a weight discontinuity that is above a certain fixed threshold (ΔP).

7) A gridding method as claimed in claim 5, comprising representing the pipe in form of a graph connecting the curvilinear abscissa and the level variation, and simplifying the number of sections by forming the frequency spectrum of the curve representative of the pipe topography, attenuating the highest frequencies of the spectrum showing the slighest topography variations and reconstructing a simplified topography corresponding to the rectified frequency spectrum.

8) A gridding method as claimed in claim 7, comprising sampling the curve representative of the pipe topography with a sampling interval so selected that the smallest pipe section contains at least two sampling intervals, determining the frequency spectrum of the curve sampled by application, correcting the spectrum by low-pass filtering whose cutoff frequency is selected according to a set maximum number of cells for subdividing the pipe, and determining the topography corresponding to the rectified frequency spectrum.